

## AMAUROMELPIA, A NEW NORTHERN NEOTROPICAL GENUS (HETEROPTERA, PENTATOMIDAE)

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### ABSTRACT

A new neotropical genus *Amauromelpia* is proposed to include *A. ussu* sp. n., type species, from Costa Rica, French Guyana, Brazil and Bolivia and *A. miri* sp. n. from Colombia and Peru.

KEYWORDS. Pentatomidae, Pentatomini, *Amauromelpia*, Taxonomy, Neotropical.

### INTRODUCTION

In the revision of *Hypatropis* Bergroth, 1891, FERNADES & GRAZIA (1996) had the opportunity to examine a large series of specimens with similar facies. The study of the male and female genitalia, allied to other morphological characters, allowed us to separate these specimens in three distinct groups. One of them is here described as a new genus *Amauromelpia* with two new species *A. ussu* and *A. miri*. Such as *Hypatropis*, the new genus belongs to section 1 of ROLSTON & McDONALD (1984), which is characterized by the absence of a tubercle on third urosternite.

### MATERIAL AND METHODS

The specimens studied belong to the following collections: American Museum of Natural History, New York, New York, USA (AMNH); Coleção de Entomologia Pe. J. S. Moure, Departamento de Zoologia, Universidade Federal do Paraná, Curitiba, Paraná, Brazil (DZUP); Coleção Entomológica, Departamento de Zoologia, Universidade Federal do Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, Brazil (UFRG); Coleção Entomológica, Fundação Instituto Oswaldo Cruz, Rio de Janeiro, Rio de Janeiro, Brazil (FIOC); Coleção Entomológica, Fundação Universidade do Amazonas, Manaus, Amazonas, Brazil (FUAM); Entomological Collection, Department of Entomology, U. S. National Museum of Natural History, Washington, District of Columbia, USA (USNM); Instituto Nacional de Pesquisa da Amazônia, Manaus, Amazonas, Brazil (INPA); Museo Regionale di Scienze Naturali di Torino, Collezione Massimiliano Spinola, Torino, Italy (MRSN); Museu Nacional, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Rio de Janeiro, Brazil (QBUM); Museu de Zoologia, Universidade de São Paulo, São Paulo, São Paulo, Brazil (MZSP); The Natural History Museum,

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London, England (BMNH); Zoological Collection, Lund University, Lund, Sweden (LUND).

Measurements are given in millimeters. For the new species *A. ussu* and *A. miri* all males and females were measured. The terminology of DUPUIS (1970) was adopted for the structure of the genitalia. The only female of *A. miri* was not dissected, then description and illustrations of internal genitalia were not done.

### *Amauromelpia* gen. n.

Etimology. Greek, *amauro* =dark, *melpia* =proper name; gender neuter.

Type species. *Amauromelpia ussu*, sp. n.

Castaneous to dark castaneous. Elliptical-shaped body. Body length 6,5-9,6. Abdominal width 3,7-5,6.

Head wider than long. Jugae and tylus subequal in length. Antennae with segment I not attaining apex of head. Antennal segments I and II subequal in length, III subequal to V both longer than IV; segment IV slightly dorsoventrally depressed and very gently, longitudinally sulcated. Head in profile with jugae in a higher level than tylus. Bucculae with a small anterior tooth, rectilinear in profile, weakly developed and evanescent at base of head. Rostrum attaining or slightly surpassing metasternum. Rostral segment I as long as bucculae and obscured by them in profile. Rostral segment II shorter than III and IV together. Ventral surface with punctures almost regularly distributed, sometimes concentrated at base of bucculae.

Pronotum trapezoidal, anterior two thirds slightly declivant. Anterior angles distinctly toothed. Humeral angles slightly toothed. Pronotum densely and uniformly punctured; scapes punctured. A narrow row of white hairs along prosternum, mesosternum and metasternum. Anterior half of mesosternum with a low carina. Metasternum shallowly concave. Each ostiolar rugae clavate and developed through 1/6 metapleural width. Evaporatory area matte and punctured. Basal angles of scutelum foveated, apex rounded attaining posterior border of connexival segment V. Scutelum densely and uniformly punctured. Posterior angle of corium acute reaching middle connexival segment VI. Apex of radial vein with a small pale yellow callus. Corium with an impunctured narrow strip parallel to clavus. Exocorium densely and finely punctured. Hemelytral membrane hyaline and infuscate, veins brown sometimes bifurcate. Femora and tibiae with piceous dots. Tarsi immaculate. Tibiae dorsally sulcated.

Well-exposed connexivum with concolorous punctures sometimes bordered dark-castaneously. Postero-lateral angles of connexivum weakly projected. Ventral surface of abdomen dark spotted along median third; lateral margin finely, lighter and less punctured. Each trichobothrium separated by the imaginary longitudinal line tangential to spiracles. Subcaloused, pale-yellow little spots, inner to spiracles, not punctured.

Male pygophore quadrangular, globose opening dorso-posteriorly. Postero-lateral angles rounded slightly projected. Dorsal rim (dr) posteriorly projected covering pygophoral cup at base; middle third shallowly concave. Ventral rim (vr) forming two layers; the superior one expanded in 1+1 cylindrical arms (ca) dorsally-directed, each one beside segment X, inner angle projected toward longitudinal plane. Inferior layer carinated, median third with 1+1 tooth-like projections (tp). Segment X (x) cylindrical, with 1+1 processes (pp) near middle length, surface of posterior half concave, apex rounded. Parameres absent. **Phallus** ovoid. Articulatory apparatus: dorsal connectives (dc) broad and short; **processus capitati** (pca) well-developed. **Phalotheca** (ph) with

one median and ventral process, **processus phallothecae** (pph), in 1+1 clavate arms, subparallel, laterally-depressed, dorsally-curved, apices slightly twisted. Postero-lateral angles of **phallotheca** developed. **Conjunctiva** (cj) complex with slightly sclerotized, tumid areas and two processes: one ventral, **processus conjunctivae 1** (prcj1), in 1+1 divergent, strongly sclerotized cylindrical arms, with apex dorsally-curved, longer than **processus phallothecae**; the other lateral, **processus conjunctivae 2** (prcj2), in 1+1 almost rectangular structures, depressed, with a well-developed spine-like projection dorsally directed. **Vesica** (v) with a dorsal shield-like process, **processus vesicae** (prv); membranous side in a ventral shapeless collar. **Ductus seminis distalis** (dsd) extremely long, helicoidal and very delicate usually not preserved after dissection.

Female. Outline of genital plates in a semicircle. Gonocoxites 8 (gc8) with mesial borders parallel. Spiracles absent in laterotergites 8 (la8). Gonocoxites 9 (gc9) trapezoidal. Laterotergites 9 (la9) convergent, internal margin straight above gonocoxites 9, surface of basal third excavated, apices rounded. Antero-lateral angles of gonocoxites 8 with 1+1 divergent arms. Secondary thickening (st) of gonapophyses 9 (g9) and **chitinellipsen** (ch) present. Thickening of vaginal intima (tvi) conical. **Capsula seminalis** (cs) globose, tooth-like processes absent.

Distribution. Costa Rica: Taboga; French Guyana; Brazil: Amazonas, Pará; Peru: Loreto; Bolivia: Beni.

Diagnoses. Body dark. Dorsal rim projected posteriorly covering pygophoral cup at base. Parameres absent. Cylindrical arms of superior layer with inner angle projected toward longitudinal plane. **Phallus** ovoid. **Processus conjunctivae 1** in 1+1 strongly sclerotized arms with apex dorsally-curved. **Processus conjunctivae 2** in 1+1 almost rectangular structure, depressed, with a well-developed spine-like projection posteriorly directed. Surface of laterotergites 9 with basal third excavated.

Comments. This genus is related to *Hypatropis*; they share the following characters: head in profile with jugae in a higher level than tylus, parameres absent, **ductus receptaculi** extremely long, and well-developed secondary thickenings of gonapophyses 9. *Amauromelpia* could be distinguished from *Hypatropis* by the structure of the male genitalia, specially the conjunctival processes of the **phallus**; segment X with an entire transversal carena in *Hypatropis*, instead of 1 + 1 processes at middle third in *Amauromelpia*.

### *Amauromelpia ussu* sp.n.

(Figs. 1-5, 10-12, 16, 18, 19)

Etymology. From tupy language; ussu = big.

Holotype male. BRAZIL. **Amazonas**: Janaucá, 29.VII.1978, W.Benson col. (DZUP). Paratypes. COSTA RICA. **Guanacaste**: Las Cañas, Taboga, 10mt, 1♀, 20.III.1965 (AMNH). FRENCH GUYANA. Cayenne, 1850, D. Jekel col., Spinola's collection (MRSN). BRAZIL. **Amazonas**: same data as holotype, 1♂ (MZSP), 1♂, 2♀ (UFRG); Igarapé Belém, near Rio Solimões about 70 km East of Leticia (Colombia), 1♂, V.1970, B. Malkin col.(AMNH); Médio Purús, 1♀, 17.X.1979, J. Campbell col. (INPA); Manaus, Puraquequara, 1♀, 6-9.VIII.1991, C.S. Motta, F.A. Peralta & B.R. Teles col. (FUAM); Benjamin Constant, 1♀, XI.1962, A. Silva col. (MZSP); Parintins, 3♀, VIII.1935, G.V. Vrebemburg col. (BMNH); **Pará**: Rio Parú, 1♀, VII.1952, J.C.M. Carvalho col. (QBUM), Prainha, 1♂, 6.I.1920, D. Mendes col. (UFRG), 1♂, same data (USNM), 1♀, same data (LUND); Santarém, 1♀, VIII.1936, Worontzow col. (FIOC), Gurupaiti, 1♀, 16-17.IX.1930, Holt, Blake & Agostini col. (USNM). BOLIVIA. **Beni**: Itenez river at mouth of Baures river, 1♀, IX-X.1964, J.K.Bouseman & J. Lussenhop col. (AMNH).

Body length 7.6-9.6. Abdominal width 4.6-5.6 (fig. 1). Head length 1.5-2.0. Head

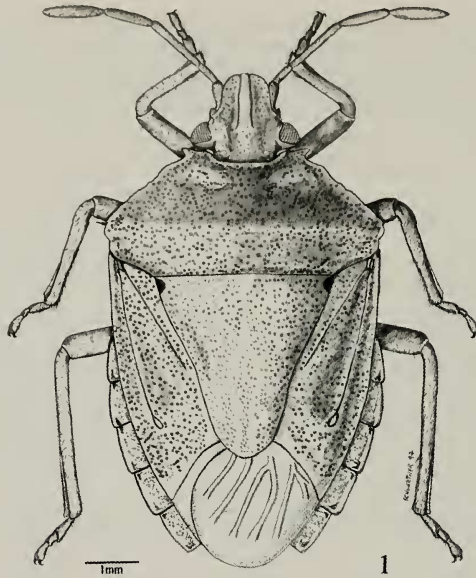


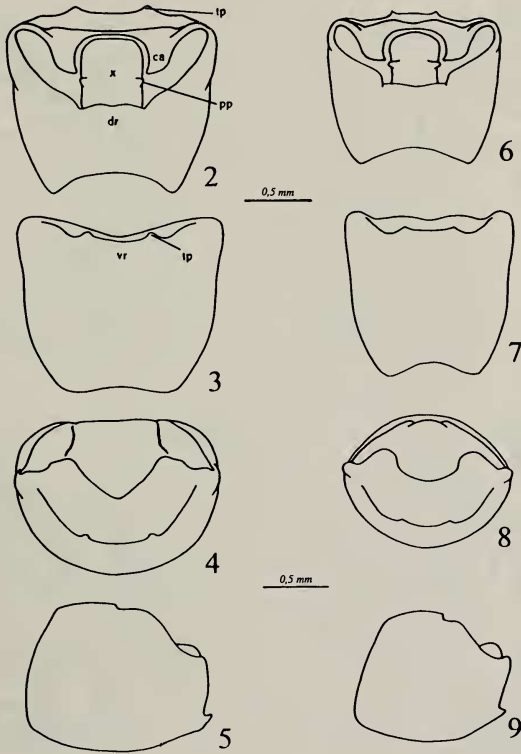
Fig. 1. Habitus. *Amauromelpia ussu* sp. n.

width 1.9-2.1. Pronotal length 1.9-2.3. Pronotal width 4.5-5.3. Scutellar length 2.9-3.5. Scutellar width 2.9-3.4. Tylus slightly longer than jugae (in two specimens of the sample tylus little shorter than jugae). Outer lateral margin of jugae anteriorly convergent. Punctures of head regularly distributed except for the tylus that is almost impunctate. Antero-lateral margins of pronotum almost rectilinear. Its anterior half slightly crenulated. Corium densely, uniformly punctured.

Pygophore. Diaphragma at each side of segment X with an excavation delimited by a dark-castaneous carena (figs. 2-5). **Processus capitati** reduced in relation to *A. miri*, with diameter almost half the *aedeagus* length. **Processus conjunctivae 1** straight and stouter than in *A. miri* (figs. 10-12).

Gonocoxites 8 uniformly tumid; posterior border convex. Posterior border of laterotergites 8 just surpassing apices of laterotergites 9 inner postero-lateral angle obtuse. Apices of laterotergites 9 not surpassing transverse band uniting laterotergites 8 dorsally (fig. 16). Gonocoxites 9 with turgid lateral areas; arms reach base of laterotergites 9. Secondary thickening of gonapophyses 9 large, partially hiding **chitinellipsen** (fig. 18). **Ductus receptaculi** (dr) extremely long (fig. 19), wound before and after vesicular area (va). Annular crests (aac, pac) little developed. **Pars intermedialis** (pi) with a narrow sclerotized ring at base. **Capsula seminalis** globose, shorter than **pars intermedialis**.

Distribution. Costa Rica: Guanacaste; French Guyana; Brazil: Amazonas, Pará; Bolivia: Beni.



Figs. 2-9. Pygophores. *Amauromelpia ussu* sp. n.: 2-5, dorsal, ventral, posterior and lateral view respectively. *Amauromelpia miri* sp. n.: 6-9, dorsal, ventral, posterior and lateral view respectively (ca, cylindrical arms of inferior layer of ventral rim; dr, dorsal rim; pp, process of proctiger; tp, tooth-like projections of inferior layer of ventral rim; vr, ventral rim; x, tenth abdominal segment).

### *Amauromelpia miri* sp.n.

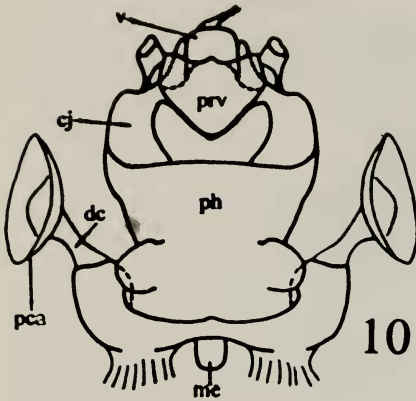
(Figs. 6-9, 13-15, 17)

**Etymology.** From tupy language; *miri* = small.

**Holotype male.** PERU. **Loreto:** Iquitos, Iquitos ville, chacra Mario Eduardo Vargas, X.1968, G. Couturier col., plant hôte Cruciferaceae ? *Sinapis* (AMNH). **Paratypes:** COLOMBIA. **Amazonas:** Leticia, 1♂, 2-7-IV-1975, D. Engleman col. (AMNH). PERU. **Loreto:** Iquitos, 1♂, 9.II.1984, L. Huggert col. (LUND), 1♂, same data (UFRG); Jenaro Herrera, 4° 55' S 73° 40' W, C.I.J.H. cultures experimentales, 1♂, 1989, G. Couturier col., plant hôte *Oriza sativa* (AMNH), 1♀, same data (UFRG).

**Body length** 6.7-8.0. **Abdominal width** 3.7-4.3. **Head length** 1.5-1.6. **Head width** 1.6-1.7. **Pronotal length** 1.5-1.8. **Pronotal width** 3.6-4.2. **Scutellar length** 2.5-2.8. **Scutellar width** 2.3-2.6. Smaller than *A. ussu*. Tylus almost as long as jugae. Head punctures regularly distributed. Antero-lateral margin of pronotum shallowly concave. Its anterior half serrulated. Endocorium less punctured than exocorium.



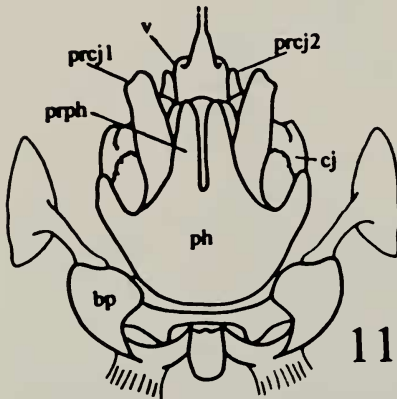


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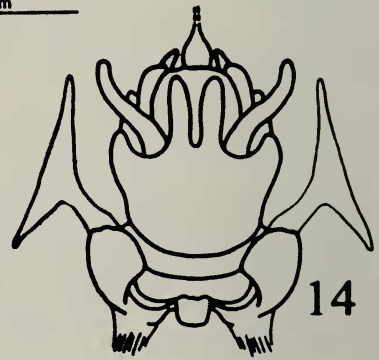


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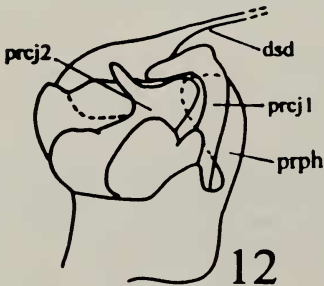


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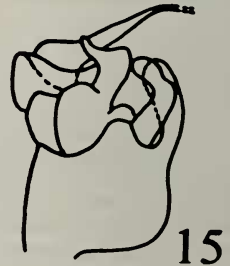


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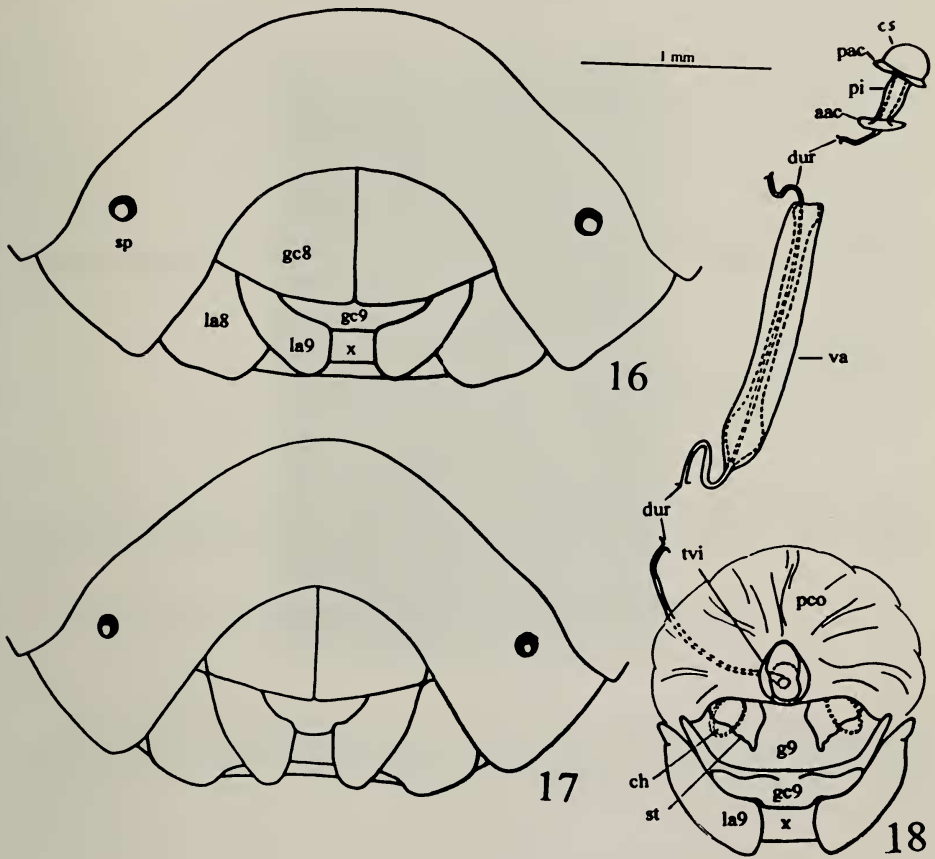


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Figs. 10-15. Phallus. *Amauromelpia ussu* sp. n.: 10-12, dorsal, ventral and lateral view respectively. *Amauromelpia miri* sp. n.: 13-15, dorsal, ventral and lateral view respectively (bp, basal plates of articulatory apparatus; cj, conjunctiva; dc, dorsal connectives; dsd, ductus seminis distalis; me, membranblase; pca, processus capitati; ph, phallosome; prcj1, processus conjunctivae 1; prcj2, processus conjunctivae 2; prph, processus phallosomae; prv, processus vesicae; v, vesica).



Figs. 16-18. Gonocoxites, laterotergites and gonapophyses of ninth segment, and ectodermal genital ducts. *Amauromelpia ussu* sp. n.: 16, 18. *Amauromelpia miri* sp. n.: 17 (aac, anterior annular crest; ch, chitnellipsen; cs, capsula seminalis; dur, ductus receptaculi; g9, gonapophyses of ninth segment; gc8, gonocoxites of eighth segment; gc9, gonocoxites of ninth segment; la8, laterotergites of eighth segment; la9, laterotergites of ninth segment; pac, posterior annular crest; pco, pars communis; pi, pars intermedialis; sp, spiracles of seventh segment; st, secondary thickenings of gonapophyses 9; tvi, thickening of vaginal intima; va, vesicular area; x, tenth abdominal segment).

Pygophore: diaphragma at each side of segment X inconspicuously excavated, carena absent (figs. 6-9). **Processus capitati** well developed, diameter subequal to **aedeagus** length. **Processus conjunctivae 1** sinuous (figs. 13-15).

Gonocoxites 8 with inner half tumid and posterior border slightly convex. Gonocoxites 9 flat. Apices of laterotergites 9 surpassing transverse band uniting laterotergites 8 dorsally (fig. 17).

Distribution. Colombia: Amazonas; Peru: Loreto.

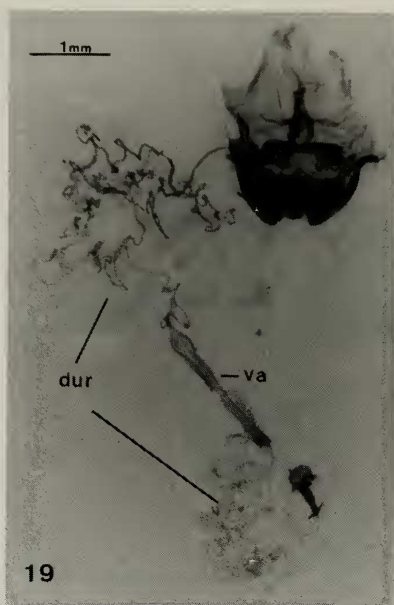


Fig. 19. *Amauromelpia ussu* sp. n. Gonocoxites, laterotergites and gonapophyses of ninth segment, and ectodermal genital ducts (dur, ductus receptaculi; va, vesicular area).

Comments. Besides the smaller size, *A. miri* could be distinguished from *A. ussu* by the serrulated and shallowly concave antero-lateral margins of pronotum; **processus conjuntivae 1** slender, sinuous. In *A. ussu* the antero-lateral margins of pronotum are almost straight, slightly crenulated at anterior half; **processus conjuntivae 1** stout, rectilinear in ventral view.

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